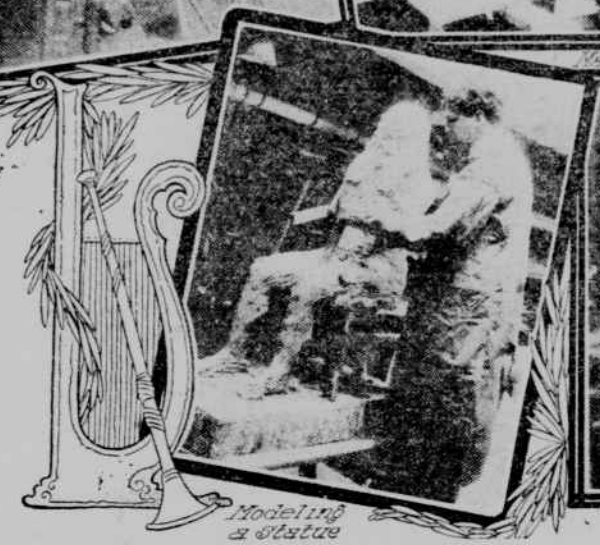
PREPARING for GRAND OPERA

by Waldon Fawcett. A.Y.H.

Decorating the Insignia for the Grand Opera "Aids"

Manufacturing Properties



Modeling a Statue

Scene Painting

Putting the Finishing Touches to one of the Gorgeous Robes for Aida"

Preparing the Scenery

THE early part of November will witness the inauguation of what will unquestionably prove the most important season of grand opera ever given in America—and in point of expenditure the most elaborate festival of operatic music ever attempted any where in the world. No longer will grand opera as a regular institution be confined to New York City. Thanks to the formation of the new so-called "Grand Opera Trust—an expansion of the interests that center at the famous Metropolitan Opera House—four American cities, instead of one, will boast their own temples of grand opera. In New York, Chicago, Philadelphia and Boston the coming winter and spring will see regularly established grand opera companies appearing as resident organizations in their own opera houses—great buildings provided for the express purpose and representing an investment of millions of dollars.

While the newspapers have been filled with cablegrams from Europe telling of the plans for one phase of this gigantic grand opera undertaking —namely, the engaging of the world's most famous singers at salaries more fabulous than ever—the public has heard little of other and yet more stupendous preparations. Reference is made to the preparations for the mounting of the operas to be given. This is a branch of the "inner workings" of grand opera to which even the patrons of the opera houses seldom give a thought. And yet it necessitates the services of hundreds of artists and artisians and calls for an expenditure of money that in the aggregate compares to no disadvantage with the wealth that is paid over every season to the fortunate golden throated singers.

No less than 20 different operas will probably be given this season at each of the great opera houses in the United States, including the French opera in New Orleans, and to provide the necessary investure of scenery, costumes, properties, lighting apparatus and other necessary equipment for these music dramas involves a herculean undertaking. An army of men and women started work upon the material for these settings almost as soon as the last season of opera closed last spring and they have been busy upon the task ever since, even working night and day in some instances, to get out the needed embellishments for the make-believe world behind the footlights. In arranging the preliminaries for a pretentious season of grand opera it is usually found that new scenery, costumes, etc., must be provided even where there is to be a revival of an opera previously presented. The opera-going public that pays $6 for a seat or $100 for a private box is very critical and is not satisfied to have old scenery "touched up" and last year's costumes resurrected.

What has rendered especially exacting the task of paving the way for the 1910-11 season of grand opera in America is that this winter is to see in the United States the first production anywhere in the world of several brand new grand operas, including the latest and most important works of the two leading Italian composers. Now a "first production on any stage" means that the scene painters and costumers and all other operatic outfitters must originate. They cannot have the benefit of any hints from former productions or object lessons afforded by European productions that antedate the American premier. Therefore, the powers that be, behind the scenes at our great opera house have this year to a greater extent than ever before been thrown upon their own resources.

Just here, too, it may be pointed out in providing the local color for a grand opera production far greater attention has been paid to historical and geographical accuracy than is the case with the average play. Take, for instance, the case of Verdi's famous Egyptian opera, "Aida," which may be cited as a representative example of requirements. Conscientious stage outfitters would not think of attempting to mount this masterpiece without weeks of preparatory study. The scenic artists have to gain a thorough knowledge of the architecture of the period, the mural decorations, etc., the costumers must familiarize themselves with the fashions of the prescribed period in the land on the Nile; the electricians must learn from books if not at first hand the characteristics of the elusive atmospheric effects of the African paradise, particularly with reference to sunrise and sunset illumination, and so on through the whole list of contributors to the perfection of operatic ensemble.

The most important requirement of a monster grand opera stage is larger scenery—and the scenery is the one behind-the-stage product to which the audiences out in front do give a serious thought now and then. The handling of giant scenery is not such a problem as might be surmised, for the stage of your up-to-date opera house is constructed in sections, any or all of which may be raised or lowered with rapidity and in perfect silence. This makes it possible to construct any given "set" complete days in advance of a production, and to leave it in such position in the basement that it will be in nobody's way and yet when wanted can be quickly elevated into position on the stage and as quickly dropped back into oblivion when it has served its purpose. The enormous height of the grand opera houses also facilitates the handling, lifting and storage aloft of the huge "drops," the name applied to huge expanses of painted canvas, which, instead of being stretched on frames, are hung as curtains and one of which "drops" forms the background for every stage setting.

Where the herculean statue of grand opera production does entail no end of work is in the scene painting. An idea of the proportions of the pictures that must be painted by the opera house artists may be formed from the fact that the "drop" used in the opera of "Madam Butterfly, and which sows the harbor of Nagasaki, Japan, measures 2,700 square feet. The much admired palace scene in "Aida is 66 feet long and 36 feet wide, while on the scenes in "Cavalleria Rusticana," embraces 3,200 square feet of canvas.

There are two different "schools" or two different methods of scene painting employed in the great studio which have been established by the multimillionaires who "back" grand opera in order that there shall always be ready to hand an ample source of scenic supply. Under one plan the scenic artists, with their human helpers and great arrays of paint pots, stand on what is known as a "scene-painting bride. This bridge, with a huge expanse of canvas on either side of it, presents at first glance merely the impression of a long, narrow room but upon closer inspection it may be seen that the floor is in reality a bridge with supports only on the ends and on either side of the narrow platform one may look, as from a precipice, down into an abyss into which the expanse of canvas is lowered at will as the artists complete one section of the surface to be painted and are ready to apply their brushes to the succeeding clean space.

Under the other method of procedure scenery is "painted on the flat." That is, the expanse of canvas to be decorated, instead of being suspended, in readily adjusted form before a mid-air bridge is stretched on the floor of a studio, a floor onward of 200 feet in length and the artist literally walks over his canvas. Whichever method be employed for the actual painting of the scenery there are numerous preliminaries, and these are the same in both cases. First, the artists make a water color sketch of each projected "drop," and in order to ascertain the ultimate effect of a complete "set" they make miniature models—complete as to "wings" and all which, when put in place on a tiny stage look for all the world like the toy theatres that delight children at Christmas time but which in this case have the practical advantage that they give the scenic artists practical foresight as to color schemes, detail arrangements, etc. .

Any woman would be interested could she have a peep into the costume and wardrobe department of a grand opera house. Here are high salaried French designers, tailors, fitters, seamstresses and all the other

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BEET SUGAR

A.Y.H. by Forbes Lindsay

General View of Refinery

Modern Way of Getting Beets to Factory

Forty Acres of Beets

Vacuum Pan

Boiling Department

THE yearly consumption of sugar in the world is upward of 22,000,000,000 pounds. This enormous quantity is used by a population of 1,522,000,000. The distribution is very far from even, however some countries accounting for next to none of it while in several others the average exceeds 50 pounds for every inhabitant. Strangely enough some of the oldest peoples to whom manufactured sugar has been known since time immemorial, are only now beginning to develop a sweet tooth. This may be said of the Chinese and the various races of the Philippine Archipelago.

The rapid growth in population naturally accounts for a constant expansion in the consumption of sugar, but this is greatly enhanced by the increase in individual use. For instance in the United States the per capita consumption has risen eight pounds over what it was a few years ago. We dispose of 80 pounds annually for every soul in our population, while 20 years ago the average was little more than 50 pounds. Only in Great Britain are figures higher. There they rise to 100 pounds. Denmark comes next with 75 pounds, then Switzerland with about 60 pounds. Thrifty Germany, which produces the largest beet crop in the world, uses comparatively little sugar itself. Its per capita consumption is about 42 pounds, being about the same as Holland's. Italy, Roumania, Belgaria and Servia each consume less than 10 pounds per head of their population.

Sugar in some form has been used by the inhabitants of the globe since the earliest times. The chief source of supply was honey until the fifteenth century before Christ. The value of cultivating the wild sugar cane was discovered about that time in India. For hundreds of years only the raw juice was expressed, until about 700 B. C., the employment of fire in concentrating it came into practice. From India the art spread rapidly among all ancient nations, but did not reach Western Europe for several centuries. Columbus carried sugar cane from the Canary Islands to the West Indies, whence it extended to the mainland and thus encircled the earth after a progress that occupied 3,000 years.

Within 100 years after the introduction of sugar into the New World the producing therein became so large that the importers of Europe turned to it for their supply, which had formerly been obtained mainly from the East, Egypt, Spain and Italy, large producers of sugar at that time were unable to compete with the American output and soon ceased to cultivate sugar commercially. Free land and slave labor enabled the planters of the West Indies to grow cane in successful competition with any part of the world.

Today the industry is carried on under the most diversified conditions. In many countries, such as India, Malava and the Philippines, cane is raised and sugar manufactured in the crudest manner and by the cheapest labor. Of course, the product is low grade and the percentage of extraction small. In other countries, such as Cuba and Hawaii, the most improved machinery is used, skilled and high priced labor employed.

The competition between cane producing countries is so close that an advantage gained by one will frequently destroy the industry in another. Such was the case when our reciprocal tariff arrangement with Cuba resulted in closing the sugar mills of Jamaica. In recent years the keenest kind of rivalry has existed between cane and beet sugar. At first the latter had great difficulty in forcing a place for itself in world's markets. But with government subsidies, improvement in cultivation and economies in manufacture it gradually became an irresistable competitor. During the past 15 years it has come to the front with great strides and now it divides the world's consumption about equally with the cane product.

It is strange how long an opportunity in the field of agricultural development may be latent. Beet sugar cultivation is now recognized as one of the most profitable forms of farming and its manufacture as one of the most paying enterprises. The industry opens up for the United States the greatest economic possibilities. It raises a reasonable hope that this country will ultimately produce all the sugar that it consumes.

Although the manufacture of sugar from beets has assumed considerable proportions only in late years, as early as 1747 a German chemist made the discovery that sugar could be extracted from the common beet. Another German began a few years later the systematic cultivation of the root with a view to increasing its sugar content. Before the opening of the eighteenth century the sugar beet had been introduced into Holland, France and England, and as early as 1830 it was brought to the United States. And yet it was not until 50 years later that a successful beginning was made in the cultivation of the sugar beet in America by the establishment at Alvarado, Cal., of a plant. Meanwhile European countries, and especially Germany had made greater progress in the cultivation of the beet and the manufacture of sugar from it. Their governments recognized the importance of the industry and by subsidies and other assistance fostered it.

While the handling of sugar beets is a highly profitable enterprise for manufacturers and farmeers, it is so only under proper conditions. The latter have not a general and unrestricted market for their product as they have for corn or wheat. On the other hand it would be extremely hazardous to invest $500,000 or $1,000,000 in a factory unless a sufficient supply of the raw material to keep it running could be depended upon. Before erection of a beet sugar mill the promoters of the enterprise generally contract with a certain number of the farmers adjacent to the site for crops of beet during a period of five years, and rely on the satisfactory experience of the growers for the renewal of the contracts. In some instances companies secure tracts of suitable land, erect a factory and sell or lease farms on the express conditions that they shall be devoted mainly to the production of sugar beets. This is the more speculative method; but, when it is successful the more profitable.

These arrangements are usually only perfected after lengthy negotiations and the application of much diplomatic argument. The American farmer is conservative and slow to embark into experimental ventures. The proposed field of operation is usually one in which the beet has not before been grown. The farmers of the district must be convinced that it will be to their advantage to undertake the cultivation of it. The wise promoter makes up a party of them and takes them to a section where the industry is successfully carried on. The object lesson will almost invariably decide the question.

The relations of the factory and the farmer extend far beyond the agreement of one to produce beets and the other to buy them. In order to do a paying business the factory must receive beets of a good grade and the contract provides that the grower shall adopt certain methods under the direction of the representative of the factory. This involves a feature of the industry which is exerting a wide and benefiting influence on farming and general.

There are upwards of 70 beet sugar factories in the United States. Each of them has an official who is known as an agricultural and who has several skilled assistants. This corps of experts study the problems presented by the soil, climate and other conditions of the locality. They are in constant communication with the farmers under contract with the factory, advising and directing them, not only with regard to beet cultivation, but in respect to almost all problems that have to do with the farm. Thus the factory carries on a highly valuable educational work as indicated by the constant rise in the scale of proficiency which is invariably exhibited by a beet-growing community.

It is a fortunate feature of the industry that the interests of the manufacturer should prompt this educational service, for we are far behind Germany and France in efficiency. With land less rich than ours and twice as costly, those countries are, by better methods, producing beet sugar more profitably than we can. In 20 years Germany has increased the average yield per acre from 7.1 tons to 12.73 tons, a pretty good refutation of the oft repeated statement that beets exhaust the soil. In the same period the German factories have increased the proportion of sugar extracted from 5.55 to 15.69 per cent. We are far behind this achievement but the condition of the industry with us is fast improving. The sugar beet is becoming one of the leading agricultural products of our semi-arid states, where it is grown under irrigation. Ten years ago the value of the output in Colorado was $100,000. Last year it was approximately $18,000,000, a sum much in excess of the silver production of the state. The growth that has taken place in Colorado is being rapidly duplicated in Idaho and Montana and in Wyoming a commencement has been made.

The chief drawback to the industry is the shortness of the "campaign."

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